

DERWENT-ACC-NO: 1997-234062  
DERWENT-WEEK: 200169  
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TITLE: Design method of linear motor - involves forming object curve part in primary magnetic pole iron core between front and rear end sides in movement direction for uniform flux distribution between primary and secondary permanent magnet iron cores

PATENT-ASSIGNEE: MITSUBISHI ELECTRIC CORP[MITQ]

PRIORITY-DATA: 1995JP-0162241 (June 28, 1995)

PATENT-FAMILY:

| PUB-NO        | PAGES | PUB-DATE         | MAIN-IPC |
|---------------|-------|------------------|----------|
| JP 3220898 B2 |       | October 22, 2001 |          |
| 008           |       | H02K 041/03      | N/A      |
| JP 09074733 A |       | March 18, 1997   |          |
| 009           |       | H02K 041/03      | N/A      |

APPLICATION-DATA:

| PUB-NO         | APPL-DESCRIPTOR | APPL-NO |
|----------------|-----------------|---------|
| JP 3220898B2   | N/A             |         |
| 1996JP-0169951 | June 28, 1996   |         |
| JP 3220898B2   | Previous Publ.  | JP      |
| 9074733        | N/A             |         |
| JP 09074733A   | N/A             |         |
| 1996JP-0169951 | June 28, 1996   |         |

INT-CL\_(IPC): H02K041/03

ABSTRACTED-PUB-NO: JP 09074733A

BASIC-ABSTRACT: The design method of a linear motor arranges the magnetic north

(N) and south (S) poles of a secondary side permanent magnet alternately in the movement direction. A pair of N and S poles of the secondary magnet are separated by a distance (L) in the movement direction. A object curve part (9) is formed in the primary magnetic pole iron core (1) between the front end side (7) and the rear end side (8) in the movement direction. Then the flux distribution density, covering the movement direction ends (7,8) of the primary magnetic pole iron core and the secondary permanent magnet, is of a sinusoidal shape.

The length of the movement direction in the primary magnetic pole iron core is equal to A, which is computed by equations  $A = (n + (1/3) + \alpha) \times L$  and  $(n + (5/6) + \alpha) \times L$ , where n is a positive integer. The thrust ripple is reduced since the movement direction components  $F_f$  and  $F_b$ , corresponding to the front and rear ends of the primary magnetic pole iron core, cancel each other.

ADVANTAGE - Reduces thrust ripple. Enables flexible design.

CHOSEN-DRAWING: Dwg.1/14

TITLE-TERMS:

DESIGN METHOD LINEAR MOTOR FORMING OBJECT CURVE  
PART PRIMARY MAGNETIC POLE IRON  
CORE FRONT REAR END SIDE MOVEMENT DIRECTION UNIFORM  
FLUX DISTRIBUTE PRIMARY  
SECONDARY PERMANENT MAGNET IRON CORE

DERWENT-CLASS: V06 X11

EPI-CODES: V06-M06B; V06-M11; X11-H02; X11-J08;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1997-193642

DERWENT-ACC-NO: 1993-171696  
DERWENT-WEEK: 199321  
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TITLE: Linear motor - has magnetic tapered cushion  
blocks attached  
respectively to both ends of slider NoAbstract

PATENT-ASSIGNEE: FUJI ELECTRIC MFG CO LTD[FJIE]

PRIORITY-DATA: 1991JP-0255601 (October 3, 1991)

PATENT-FAMILY:

| PUB-NO        | PAGES | PUB-DATE       | MAIN-IPC    |
|---------------|-------|----------------|-------------|
| JP 05103457 A | 003   | April 23, 1993 | H02K 041/03 |
|               |       |                | N/A         |

APPLICATION-DATA:

| PUB-NO         | APPL-DESCRIPTOR | APPL-NO |
|----------------|-----------------|---------|
| JP05103457A    | N/A             |         |
| 1991JP-0255601 | October 3, 1991 |         |

INT-CL (IPC): H02K033/18; H02K041/03  
ABSTRACTED-PUB-NO: JP05103457A  
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS:

LINEAR MOTOR MAGNETIC TAPER CUSHION BLOCK ATTACH  
RESPECTIVE END SLIDE  
NOABSTRACT

DERWENT-CLASS: V06 X11

EPI-CODES: V06-M06B; X11-H02;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1993-131961

CLIPPEDIMAGE= DE003722153A1  
PUB-NO: DE003722153A1  
DOCUMENT-IDENTIFIER: DE 3722153 A1  
TITLE: Electrodynamic synchronous machine

PUBN-DATE: January 12, 1989

INVENTOR-INFORMATION:

NAME

COUNTRY

|                             |    |
|-----------------------------|----|
| FRISTER, MANFRED DIPL ING   | DE |
| HAERER, HELMUT DR ING       | DE |
| HENNEBERGER, GERHARD DR ING | DE |
| LUTZ, HANS-JOACHIM DIPL ING | DE |
| OLBERTZ, HELMUT DR ING      | DE |
| RAGALY, ISTVAN DIPL ING     | DE |
| SCHMIDT, BURKHARDT          | DE |
| SCHUSTEK, SIEGFRIED DR ING  | DE |

ASSIGNEE-INFORMATION:

NAME

COUNTRY

|                   |    |
|-------------------|----|
| BOSCH GMBH ROBERT | DE |
|-------------------|----|

APPL-NO: DE03722153  
APPL-DATE: July 4, 1987

PRIORITY-DATA: DE03722153A (July 4, 1987)  
INT-CL\_(IPC): H02K005/24; H02K019/22  
EUR-CL\_(EPC): H02K001/24; H02K001/27  
US-CL-CURRENT: 310/51

ABSTRACT:

In order to reduce interfering noise noticeably in the case of electrodynamic synchronous machines, the excitation poles are arranged offset from the magnetic centre within the pole pitches; both